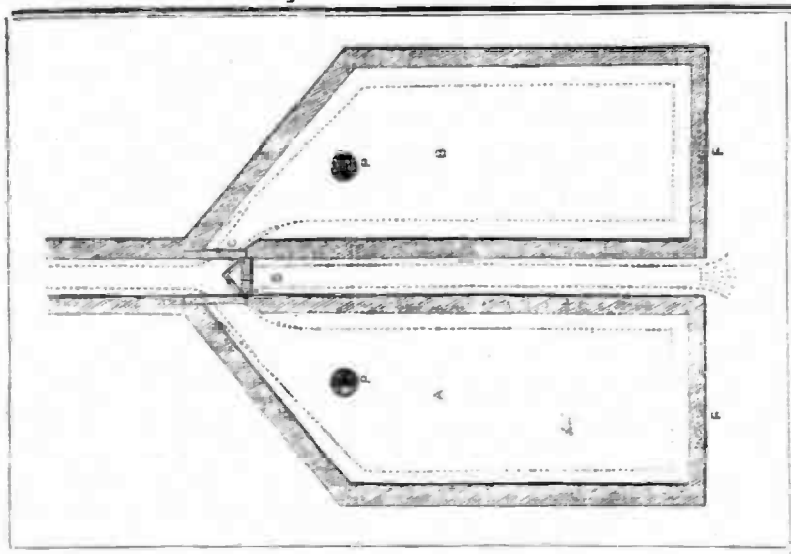

be constructed two reservoirs for receiving the contents as they flow towards the river, to be opened alternately in the manner shown in drawing. When the reservoir B is filled, the gate (*c*) to be closed, and that leading into reservoir A to be opened.

During the progress of filling, however, a pipe, descending from a building erected over the reservoir—having the lower part filled with holes, and susceptible of being raised or depressed at pleasure—should be made the means of conveying by suction the liquid part of the contents into a reservoir, on the top of the building—from whence it may be conveyed in pipes (*p p*) to any distance by pressure or otherwise.

In the course of time, a deposit of a more solid character would be formed, which, having acquired a given thickness, should be removed by mechanical means, if not by manual labour.

A small steam-engine should be at work for the purposes in question, and the lofty chimney be made, at the same time, the means for carrying off unpleasant vapours, supposing no chemical agent is available to destroy the same. This, however, I fancy, could be done in these reservoirs if they were properly constructed.

Such a plan would, of course, require that a man or two should be in constant attendance, although the time required for the raising of the one, and the lowering of the other gate, might very soon be pretty accurately ascertained.

Under any circumstances, in case the contents, by reason of rains and storms, suddenly increase, the upper parts of the reservoir should be provided with divisions (*f f*), which, on a given degree of pressure being exercised by the flood within, should open to allow of the exit of the surplus to Father Thames. This would not have much effect, if any, upon the river.

A passage, D, should still be left between the reservoirs to the river, only to be used under circumstances of necessity, at the discretion of the guardian or keeper.

The upper surface of the reservoir should be just about on a level with the quays of the river, i. e., just about high tide—if the position of the sewer will admit of it: the lower part may be as deep as is consistent with the amount of liquid usually flowing from the sewer.

Smaller sewers might be turned into the greater ones, and thus as few such establishments be created as possible. But it appears to me, under any circumstances, that no plan would be cheaper, and that the profits arising from the sale of the liquid, and also from the sediment to be dug out from time to time, would be more than amply sufficient to repay any expenses incurred.

The Commissioners of Woods and Forests have accepted the tender of Mr. Robert Hicks, of Stangate, for the masons', carpenters,' and joiners'-work required in the repairs and ordinary works to the royal palaces and public buildings of the metropolis.

RESTITUTION OF PROJECTING SHOP FRONTS WITHIN LIMITS OF THE BUILDINGS ACT.

In reply to some inquiries as to the views of the official referees concerning the re-construction of shop fronts in town at present projecting before the line of fronts, we cannot do better than place before our readers the substance of an award made a short time ago, on the information of the Marylebone district surveyor, against the owner of No. 85, Oxford-street, and the builder employed.

In this case the old shop front had projected very considerably before the line of fronts, and the house being taken down, the owner contended that he was entitle to rebuild upon the site to the full extent of the said projection. Adjoining occupiers contended that the projection would be injurious to them.

The award set forth the following :—

"1st. With reference to the claim of the said builder and owner, that as the said house had been recently rebuilt, and a projection formerly existed in front thereof upon the ground of the same owner, they are entitled to rebuild the said projection to the same extent,—we, the said official referees, considering that it is by the first-mentioned Act (section 5) enacted, that buildings shall be built, rebuilt, enlarged, or altered, in reference, among other matters, to the projections and to any other parts or appendages of such buildings, in conformity with the several particulars, rules, and directions, which are specified and set forth in the several schedules, C, D, E, F, G, H, I, K, to the said Act annexed, and considering also that certain rules are by the said schedule E specified and set forth, 'with regard to buildings hereafter to be built or rebuilt in reference to projections therefrom,' and also 'with regard to buildings already built or hereafter to be rebuilt, as to bow windows or other projections of any kind,' do hereby determine and award, that it will not be lawful to rebuild any buildings so as to retain any projection contrary to such rules, or to rebuild any projection whatsoever which it would be contrary to such rules newly to erect.*

2nd. With reference to the allegation that the projection in question is a shop front, and as such, is permitted to project beyond the general line of the fronts of the houses in any street or alley, we do hereby determine and award, that the said projection is not wholly a shop front, but that it is in part a projection made before the front of the said house as an extension of the second or ground-floor story thereof, and is not allowed by the said first-mentioned Act to project beyond the general line of the fronts of the houses, and that the face of the front external wall of the said house No. 85, Oxford-street, above the said projection, is in the general line of the fronts of the houses in that part of Oxford-street where the said house is situate, and that inasmuch as the said projection projects beyond such line, the same is contrary to the said first-mentioned Act.

3rd. With reference to the allegation that the said projection would be injurious to the owners and occupiers of the buildings thereto adjoining, we do hereby find and certify, determine, and award, that the said projection will be injurious to the owners of such houses, and that such projection will be injurious to William Swinstead; by obstructing the view of his goods when displayed in any shop window that he may lawfully make before the front of his house, and that such projection is in this respect contrary to the said first-mentioned Act.

And further, we are of opinion that in no case may any projection be made beyond the general line of fronts, under the name of a shop front, so as to be in fact an enlargement of any floor or story of the building to which it belongs, but that where the said first-mentioned Act allows shop fronts to project beyond the general line, it is to be understood of shop fronts properly so called and not otherwise, and that any projection which projects to an extent greater than the reasonable width of a stall board cannot be included in the term "shop front," and that such reasonable width may be taken to be in the case of the building in question, and of the buildings on each side of it, two feet three inches, and no more, and that any cornice to such shop front may take the reasonable projection of a cornice, so that in any case there be no overhanging or encroaching upon the public way, and so that such shop front and cornice if they project beyond the statuable width for wooden shop fronts and cornices, be wholly of brick, tile, stone, artificial stone, slate, cement, or metal, or of other proper and sufficient fire-proof materials, except the frames and sashes of the doors and windows, in reference to the necessary woodwork thereof.

And as to the proper separation of two shops; as well as to the injurious effect of shop fronts upon the adjoining owner, we do also declare our opinion that unless any two adjacent shop fronts be separated from one another by projecting brickwork, at least 8½ inches thick (which may be in two half bricks in the line of the party wall, between the buildings), or by brick built ends, clear of one another, and of the party wall, the returns of the shop fronts ought to be kept wholly within the lines of the inside faces respectively of the party wall."

The owner was accordingly directed to take down and remove so much of the projection as extended more than two feet three inches beyond the face of the front external wall of the house.

* We are not to be considered as necessarily assenting to the universal application of this dictum.—Ed.

FORMATION OF THE VAULTING OVER ST. GEORGE'S HALL, LIVERPOOL.

Mr. Elmes intended that the vaulted ceiling of St. George's Hall should be formed in brickwork; Mr. Robert Rawlinson, however, introduced hollow pots for the purpose, as we mentioned in our recent notes on Liverpool. The ceiling has just been completed, and the centres struck. It is 169 feet long and 65 feet in span, and according to the *Liverpool Journal*, the whole amount of subsidence was three-eighths of an inch at the crown, uniformly throughout the entire length of the crown. The journal in question says:—The arch has been turned with hollow tile, 12 inches in length, and 4 inches square on section, each tile being perforated, longitudinally, with a circular space 2 inches in diameter. The soffit of the arch is panelled, having two breaks, or separate sinkings of four inches each. The whole is formed and worked in with the tile, so that portions of the ceiling are 4 and 8 inches below the general line of the inner pannel, which is one tile, or 12 inches in depth. All the tiles are set as "headers" in this portion of the arch, to secure means of ventilation. The main ribs are 2 feet, or two tiles in depth, also set as "headers." The tiles were made by Mr. Scragg, of Tarporley, in Cheshire, by his drain-tile machines, and were delivered on the ground at 3*l.* 5*s.* per thousand. About 140,000 have been used in the arch. It would have taken about 230,000 bricks to construct an arch of the same dimensions and depth. The weight of the tiles in the arch is about 600 tons. Brickwork would have been about 1,000 tons—there is, consequently, a saving of 400 tons in weight by using the hollow tile. The arch has been set in mortar, made from Halkin mountain lime, excepting 5 feet on each side of the key, which is set in cement."

The arch was keyed on the 3rd and the centres were struck on the 6th, and lowered about 6 inches. We shall probably give a section of the vault.

* Many doubts have been thrown upon the practicability of turning this ceiling, by architects and builders; but its completion will be a full answer to all objections. Ceilings and arches have been turned with pottery-ware and tiles by the Romans, Italians, and French, but not of this magnitude and character. The successful completion of this arch will give an impetus to hollow brick and tile construction, as the tile-making machines offer great facilities for their manufacture; and for all purposes where combined strength and lightness are required,—as in ceilings, vaults, fire-proof flues,—the advantages are great. They will also be used for purposes of ventilation, for partition walls, and for lining external walls to prevent the admission of damp.

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